

A REVISION OF THE GENUS *TERIOMIMA* KIRBY (LEPIDOPTERA LYCAENIDAE)

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SYNOPSIS

Teriomima, a small genus of African butterflies, of the family Lycaenidae, is distributed throughout the E. and S.E. regions. Little attention has been paid to them since 1918, when Aurivillius, in Seitz: *The Macrolepidoptera of the World*, 13: 327-328, dealt with the few species then recognized. An exhaustive study of the male genitalic structure has led the authors to describe two additional genera, eight new species and one new subspecies, all contained within the earlier conception of the genus.

I. HISTORY OF THE GENUS

THE Liptenine genus *Teriomima* was described by Kirby in 1887 (*Ann. Mag. Nat. Hist.* (15) 19: 364-367). In it he placed *Pieris erastus* Hewitson (1866) and the following seven new species which he described at the same time, namely *Teriomima subpunctata* (the type species), *T. puella*, *T. tenera*, *T. similis*, *T. erasmus*, *T. flaveola*, *T. dispar* and *T. hildegarda*. In 1888 H. H. Druce described and added *Teriomima melissa* (*Ent. Mon. Mag.* 25: 109). In 1890 Kirby (*Ann. Mag. Nat. Hist.* (6) 6: 268-271) added a further six new species, *T. decipiens*, *T. delicatula*, *T. serena*, *T. modesta*, *T. cordelia* and *T. dubia*, and transferred Hewitson's *Liptena adelgitha* (1874) to the genus. In the same year W. J. Holland (*Psyche*, 5: 429) added *Teriomima leucostola*, *T. xanthostola* and *T. xanthis*. Two years later Staudinger (*Iris, D. ent. Zeit.* 4: 219-220) added *Teriomima adelgunda* and *T. alberta*, both new, and in 1894 Smith and Kirby (*Rhop. Ex.* 2: 115, *Afr. Lyc.*, pl. 25, figs. 1 and 2) added *T. freya*. In 1895 *T. galenides* Holland (*Ent. News Philad.* 6: 167) appeared. In 1898 Grose Smith (*Novit. Zool.* 5: 355) extended the list with *T. pusio* and *T. fuscula*.

Aurivillius, in *Rhopalocera Aethiopica* (1898), included in *Teriomima* the following species: *T. subpunctata* Kirby, *T. delicatula* Kirby, *T. puella* Kirby, *Durbania puellaris* Trimen (*Proc. Zool. Soc. Lond.* 1894: 59-60), *T. hildegarda* Kirby with var. *freya* Smith & Kirby, *Liptena aslauga* Trimen (*Trans. Ent. Soc.* 1873: 117), *Durbania pallida* Trimen (*Trans. Ent. Soc.* 1898: 12) and *Durbania micra* Grose Smith (*Novit. Zool.* 5 (1898): 356). He excluded from the genus *Pieris erastus* Hewitson, *T. tenera* Kirby, *T. pusio* Kirby, *T. similis* Kirby and *T. serena* Kirby, attributing them to the genus *Citrinophila* on neuration. *T. erasmus* Kirby and *T. flaveola* Kirby he treated as synonyms of *P. erastus* Hewitson.

T. xantha was described by Grose Smith in 1901 (*Rhop. Ex.* 3: 140, *Afr. Lyc.*, pl. 29, figs. 13, 15).

In Seitz (*Macrolep.* 13: 327-328, 1918), Aurivillius listed the following as *Teriomima* species: *T. subpunctata* Kirby, *T. delicatula* Kirby, *T. puella* Kirby, *T.*

puellaris Trimen, *T. micra* Grose Smith, *T. aslauga* Trimen, and treated *hildegarda* Kirby and *pallida* Trimen as forms of *aslauga* owing to the great variability of their wing patterns. Hawker Smith described *T. parva*, *T. minima* and *T. minima latimarginata* in 1933 (*Stylops*, 2: 6-7); Talbot added *T. minima* f. *stygia* in 1935 (*Ent. Mon. Mag.* 71: 72); Riley described *T. woodi* in 1943 (*Entomologist*, 76: 225-226); van Son described *T. zuluana* in 1949 (*Ann. Transv. Mus.* 21(2): 211), placing this species closest to *T. puellaris* Trimen.

This appears to be the history of the genus to date. Of the thirty-seven names cited seven have been absorbed into *Citrinophila*, viz., *tenera*, *similis*, *erasmus*, *erastus*, *flaveola*, *serena* and *pusio*; seven are now placed in *Liptena*, viz., *decipiens*, *modesta*, *leucostola*, *xanthostola*, *xantha*, *xanthis* and *galenides*; four in *Epitolina*, viz., *melissa*, *dispar*, *cordelia* and *dubia*; four are now in *Micropentila*, viz., *adelgitha*, *adelgunda*, *albata* and *fuscata*.

2. METHOD OF REVISION

The dissection of a number of specimens labelled "*aslauga*" revealed that several species were involved. Late in 1949 each of the authors commenced, by arrangement, an independent survey of the genitalic forms within the genus. Each having access to a different source of material, and employing varying techniques, it was hoped that the possibility of errors of interpretation might thereby be greatly reduced. When the two sets of results were correlated an encouraging degree of unanimity was at once apparent. Where divergences occurred they were usually due to a shortage of material, always the main obstacle to this kind of investigation. An extensive exchange of specimens, genitalic preparations, etc., soon confirmed the mutual realization that there were differences of structure of sufficient diversity and stability to warrant regrouping into three genera, two of which are new, as indicated below:

1. TERIOMIMA Kirby, to include *subpunctata*, *puella*, etc.
2. BALIOCHILA genus nov., to include *aslauga*, *hildegarda*, etc.
3. CNODONTES genus nov. to include *pallida*, etc.

At an early stage both workers agreed that it is impossible, except in a few instances, to make reliable specific determinations from external appearances. This difficulty is well illustrated by the fact that Aurivillius, for all his experience, placed the bulk of our species of *Baliochila* and *Cnodontes* under a single specific name in Seitz, wherein *hildegarda* and *pallida* are treated as subspecies or seasonal forms of *aslauga*. Even when long series have been positively identified by dissection, such is the intergradation of wing pattern and coloration, especially in *Baliochila*, that it would still be hazardous to name most specimens without examining the genitalia, even with the rich material (eleven hundred specimens) available for comparison in the British Museum. The descriptions given later in this work might suggest a great diversity of form, but what frequently occurs is no more than a confusing reversal of ground-colour and pattern. In plate 9 an attempt is made to illustrate the extremes of variation within the species *B. hildegarda* and *B. dubiosa*.

Also shown are examples of *B. neavei* and *C. vansomereni*, which differ greatly in appearance from the selected type-specimens.

From the foregoing it will be appreciated that the formulation of a key based on external appearances would be a waste of time. A key to the genitalia could be readily produced, but it is considered that the complete set of illustrations of these organs which accompanies this work is so self-explanatory as to render a key superfluous.

The effectiveness of this revision was greatly enhanced by Professor Varley, of the Hope Department of Entomology, University Museum, Oxford, who, through the kind offices of Professor Hale Carpenter, lent the whole of the Hope Department collection of *Teriomima*, amounting to more than three hundred and fifty specimens, to facilitate this undertaking. We are indebted to Dr. V. G. L. van Someren for a similar act of co-operation. Our thanks are also due to T. H. E. Jackson, Esq., for numerous contributions of material, as well as for his "on-the-spot" knowledge of the genus, so readily placed at our disposal; to E. B. D. Barnes, Esq., of Umtali, who provided examples of the new species *B. barnesi* and *B. lipara*, and to Dr. van Son, who furnished some examples of *B. aslauga*. We are also indebted to W. H. T. Tams, Esq., for much sound advice on genitalic problems.

3. SYSTEMATIC ACCOUNT OF THE GENERA AND SPECIES

Genus *TERIOMIMA* Kirby (sensu stricto).

Kirby: *Ann. Mag. Nat. Hist.* (5) 19: 364 (1887).

Type of the genus: *Teriomima subpunctata* Kirby (1887) designated by Kirby. *Eyes* bare; *palpi* rather long, ascending, projecting beyond the frons, clothed with adpressed scales, the second joint stout, laterally compressed, the third joint slender, acuminate; *antennae* rather short, with a distinct, subcylindrical club; *male forelegs* with unsegmented tarsi, clothed beneath with fine spines. *Wing shape*. *Fore wings*: costa evenly arched, rather rounded apex, outer margin strongly convex. *Hind wings*: oval, anal angle not very distinct. *Neuration*: *Fore wing* with twelve veins; cell short; vein 4 from the lower angle of the cell; posterior discocellular concave; vein 5 nearer to 6 than to 4; 6 and 7 arising from a common stalk from the upper angle of the cell; 8 and 9 branching from 7; 10 and 11 free, from the upper edge of the cell, 10 arising very close to the upper angle. *Hind wing*: cell rather short; 3 arising a little before the lower angle of the cell; 4 from the angle; posterior discocellular concave; 5 nearer to 6 than to 4; 6 from the upper angle of the cell; 7 from just before the upper angle.

MALE GENITALIA: GENERAL DESCRIPTION. Uncus bifid, consisting of two more or less pointed finger-like processes; no subunci; tegumen fairly wide; vinculum of moderate width; anellus fused to the bases of the valvae, forming a narrow sheath to the base of the aedoeagus; valva oblong, with a pointed, more or less falcate apex, sometimes having a curved, finely pointed harpe extending over the distal third of its length; aedoeagus fairly stout, the distal end having one or two ventrally-directed lobes which may be long and curved, as in the *subpunctata*-group, or rather short and blunt, as in the *micra*-group.

(1) *Teriomima subpunctata* Kirby (1887)

(Pl. 3, fig. 1, neallotype ♂; Pl. 5, fig. 26, ♂ genitalia)

Teriomima subpunctata Kirby, 1887, *Ann. Mag. Nat. Hist.* (5) **19**: 364, W. Africa (?).
syn. *Teriomima delicatula* Kirby, 1890, *Ann. Mag. Nat. Hist.* (6) **6**: 269, Usagara.

(NOTE. The treatment of *delicatula* as a synonym is the result of a careful examination of over 150 specimens; it is impossible to find any constant points of differentiation in facies or genitalia.)

Holotype (♀) in the British Museum (N.H.). ♂ not previously described.

♂. Frons brown with two lateral fine white lines; second joint of the palpi laterally compressed, clothed with white scales at the centre, brown at the extremities, third joint white tipped; antennae black, ringed with white, club black with reddish-brown tip; tarsi black, ringed with white.

UPPERSIDE FORE WING. White, with a costal margin of light brown scales extending one-third from the base, a minute patch of the same colour between the extremities of veins 11 and 12; a triangular apical patch, rather darker, from the extremity of 10 on the costal margin to midway between 2 and 3 on the outer margin.

UPPERSIDE HIND WING. White, with a very small patch of light brown scales at the tip of each vein.

UNDERSIDE FORE WING. Ground-colour white, yellowish at the costal margin and in the apical area; lightly patterned with small patches of mixed pale and dark brown scales arranged as follows: five evenly spaced patches from the base to midway along the costal margin; three evenly spaced patches from the base of the cell to the discocellulars; a straight row of three patches disposed between veins 9 and 10, 6 and 5 and 5 and 4; a curved row of five spots corresponding to the inner edge of the apical patch on the upperside, the lowermost between veins 3 and 4; two rows, marginal and submarginal, of very small spots from the apex to vein 3.

UNDERSIDE HIND WING. Ground-colour white, with a rather more evenly distributed pattern of light and dark brown patches than on the fore wing; although very irregular, these patches may be placed in six rows, the fourth from the base being the most heavily marked.

Fringes of both wings white except at the apex of the fore wing, where they are brown with interruptions of white.

LENGTH OF FORE WING. 15.6 mm.

♂ GENITALIA. Uncus bifid, lobes dilated at the base and tapering to blunt points, tips ventrally inclined, sparsely hairy; no subunci; tegumen fairly large; vinculum of moderate width; anellus sheathing the base of the aedoeagus, which is long and robust, curved in the form of a flattened S and bearing, near the distal end, two ventrally directed lobes or flaps, the distal end blunt; valva flask-shaped, with a long, curved harpe, apex weakly falcate.

Neallotype ♂: Brit. E. Afr., Uchweni Forest, 1-2.iii.1912 (S. A. Neave), in the British Museum (N. H.) B.M. Type No. Rh. 15684.

DISTRIBUTION. Kenya, Tanganyika.

(2) *Teriomima puella* Kirby (1887)

(Pl. 3, fig. 2, neallotype ♀; Pl. 5, fig. 27, ♂ genitalia)

Teriomima puella Kirby, 1887, *Ann. Mag. Nat. Hist.* (5) **19**: 365, W. Africa.

Holotype (♂) in the British Museum (N.H.). ♀ not previously described.

♀. External characters as in the male. A long series from Nyasaland, Mlanje, show considerable variation of the costal markings of the upperside fore wing and in the spotting of the underside hind wing.

Length of fore wing: 17 mm.

♂ GENITALIA. Very similar to those of *subpunctata*, but with narrower valvae, having shorter and more sharply curved harpes.

Neallotype ♀: Nyasaland, Mlanje, 2200', 8.xi.13 (S. A. Neave), in the British Museum (N.H.). B.M. Type No. Rh. 15685.

DISTRIBUTION. Nyasaland, N.E. Rhodesia, Tanganyika Territory.

(3) *Teriomima zuluana* van Son (1949)

(Pl. 5, fig. 28, ♂ genitalia)

Teriomima zuluana van Son, 1949, *Ann. Transv. Mus.* **21** (2): 211, pl. 3, figs. 5-8, text-fig. 1, Hluhluwe, Zululand.

Types in the Transvaal Museum.

For convenience the author's descriptions are given below. A male and a female of this species have been made available for study by the courtesy of Mr. Pennington.

♂. Head: frons black, eyes edged with ochraceous white; palpi black, third joint white at tip; antennae black, shaft chequered with white, club black above, below with seven terminal joints reddish-brown. Thorax: black, clothed with antimony yellow (Ridgway, pl. XV) scales and hairs above, and scales only of the same colour below; legs black, chequered with white, and with some antimony yellow chequering on coxae and femora. Wings: antimony yellow above and below. Upperside: fore wing, costa blackened from the base to less than one-third the length of the cell, closely followed by a bar opposite the middle of the cell, another opposite two-thirds of the cell, and a third at the middle of the costa (absent in most specimens); apical area with the inner edge very oblique (almost parallel with the inner margin) to vein M_1 , narrowed below the vein and reaching the middle of area Cu_1 . Hind wing unmarked. Underside: fore wing: seven equidistant small bar-like black dots, the first being placed a little before the level of the middle of the cell and the third, very minute, a little before the level of the end of the cell; under magnification most of these dots appear to consist of separate minute bars which are often unequally developed on the right and left side; an interrupted oblique bar from the sixth costal dot to vein M_1 , (absent in many paratypes); a black marginal line, thickened at the apex, interrupted between the veins and not reaching below vein Cu_2 , where it is very indistinct. Hind wing: a black dot at the middle of area RS; postdiscal black dots in areas M_1 , Cu_1 , Cu_2 ; there is no postdiscal dot in area A_2 ; a rather diffuse discocellular dot tinged with orange, and a

dot before middle of cell; a black interrupted marginal line from vein Cu_2 to anal angle (in many paratypes the dots of the underside of the hind wing are reduced or absent, and are best marked in January specimens). Length of fore wing: 14.6 mm. Antenna-wing ratio: 0.42.

Description of the female allotype.

Larger than the male, antennal club, with a few greyish scales below, and without any reddish brown. Fore wing: black apical area a little larger than in the male and projecting inwards along vein M_1 ; otherwise like male.

Length of fore wing. 16 mm. Antenna-wing ratio: 0.42.

♂ GENITALIA. Uncus double, with the prongs bent down at an obtuse angle at the middle. Valve: very elongate, gradually widened from the narrow base to two-thirds of its length, then rather abruptly narrowed and produced distally into an acute, slightly down-curved spine; ventral rim with a long claw-like process arising midway from base to apex and directed distad, with the tip slightly down-curved and reaching beyond the base of the apical spine; its length is half the length of the valve. Aedoeagus: half as long as the valve, stout, apically rounded, with two elongate triangular prongs directed downwards and which are shorter than the width of the aedoeagus; vesica forming two elongate sacs."

DISTRIBUTION. Zululand.

(4) *Teriomima puellaris* Trimen (1894)

(Pl. 5, fig. 29, ♂ genitalia)

Durbania puellaris Trimen, 1894, *Proc. Zool. Soc.* 1894: 59, pl. 6, fig. 14, ♀, Manica, Vunduzi R.

Types not examined. Presumably in the South African Museum, Cape Town.

♂ GENITALIA. Of the *subpunctata*-type, but with uncus lobes more slender; harpes shorter; aedoeagus with very distinctive ventral lobes, long, sinuate and tapering, distal end of aedoeagus forming a small point.

DISTRIBUTION. Mashonaland.

(5) *Teriomima micra* Grose Smith (1898)

(Pl. 6, fig. 30, ♂ genitalia)

Durbania micra Grose Smith, 1898, *Novit. Zool.* 5: 356, B.E.A., Tana River (Dr. Ansorge).

Types in the British Museum (N.H.).

(NOTE. The author described the male as the female and vice versa.)

♂ GENITALIA. Uncus lobes straighter than in the *subpunctata*-type armatures, more slender and sharply pointed; no subunci; tegumen quite long; vinculum and anellus as in the preceding species; aedoeagus terminating in a sharp point which arises from a zone thickly clad with fine hairs, ventral face deeply excised near the distal end, then broadening to a blunt, ventrally directed lobe; valva without harpe, apex strongly falcate, with a pronounced angle on the ventral margin; uncus and distal half of valvae hairy.

DISTRIBUTION. Kenya, coast region.

(6) *Teriomima parva* Hawker Smith (1933)

(Pl. 3, fig. 3, neallotype ♀; Pl. 6, fig. 31 ♂ genitalia)

Teriomima parva Hawker Smith, ♂ (nec ♀ = *minima minima*), 1933, *Stylops*, 2: 6, 14 m. N.W. of Mombasa, Rabai, 23.i.1904 (K. St. A. Rogers).

Holotype (♂) in the British Museum (N.H.); ♀ not previously described.

♀. UPPERSIDE fore wing and hind wing somewhat paler than in the male; fore-wing costal markings reduced to three pale brown spots and a very short subapical band; apical dark brown band extending to the tornus, but little more than half as wide as in the male; hind wing as in the male, apart from the slightly paler ground colour. Underside fore wing and hind wing as in the male.

Length of fore wing: ♀, 12 mm.

♀ Neallotype: 14 m. N.W. of Mombasa, Rabai, 13.vi.03 (K. St. A. Rogers), in the British Museum (N.H.), B.M. Type No. Rh. 15686.

♂ GENITALIA. Differ only very slightly from those of *micra*. The valvae are less strongly falcate and there is no marked angle on the ventral edge to break the smooth inward curve of the apex.

DISTRIBUTION. Kenya; Port. E. Afr.; Moa, Tanganyika Territory.

Genus *BALIOCHILA* gen. nov.

Type of the genus: *Liptena aslauga* Trimen, 1873.

Eyes, palpi, antennae, legs, wing-shape and *neurulation* as in *Teriomima*. The generic name was suggested by the spotted costa found in these species.

♂ GENITALIA: GENERAL DESCRIPTION. All but one of the species included in this genus share a common character, this being so distinctive that, in the authors' estimation, other quite considerable divergences may be disregarded; a pair of processes, the base of each being strongly attached to the dorsal side of the anellus on its inner margin and less strongly, with a half-membranous lesion to the tegumen, on its outer margin. The processes rest more or less parallel with the axis of the abdomen, midway between uncus and aedoeagus; they are usually crowned with strong spines, but in some species are completely covered with short, stiff bristles. It is difficult to decide the exact homology of these processes; they cannot be classed as subunci as they are not articulated at the level of the uncus-tegumen suture, nor can they be termed anellus lobes since they are also fused to the tegumen; the noncommittal term "special processes" will therefore be used in the ensuing specific descriptions. It is possible that they correspond with the asymmetrical processes found in *Ornipholidotos*, which are articulated to the vinculum at a point approximating to the suture of the tergite and sternite.

Four groups of species are readily separated within the genus by the formation of the uncus and the shape of the special processes:

- (a) Uncus bifid, the two arms widely separated, more or less slender; special processes rather short; *aslauga* Trimen, *barnesi* sp. nov., *neavei* sp. nov., *hildegarda* Kirby, *dubiosa* sp. nov., *nyasae* sp. nov., *stygia* Talbot.

- (b) Uncus a long flattened stalk, excised at the apex ; special processes long and slender ; *woodi* Riley, *fragilis* sp. nov.
- (c) Uncus forked, the arms slender and tapering, curved in both lateral and ventral planes ; special processes long and robust ; *minima* Hawker Smith, *lipara* sp. nov.
- (d) Uncus forked, the arms mounted on a long central stalk ; no special processes, but a pair of long, slender anellus lobes are found in their place ; *singularis* sp. nov.

Other parts of the genitalia are similar to those of *Teriomima* ; the aedoeagus, however, never has the distinctive ventral expansions found in the *subpunctata*-group.

(7) *Baliochila aslauga* Trimen (1873)

(Pl. 6, fig. 32, ♂ genitalia)

Liptena aslauga Trimen, 1873, *Trans. Ent. Soc.* 1873 : 117, Natal, Pinetown, near Durban.

Type not examined. Stated by Trimen to be in the collection of W. Morant, Esq.

♂ GENITALIA. Uncus formed of two short, spiny arms, at the base of each a small, acute triangular apophysis ; no subunci ; tegumen wide ; special processes short and crowned with spines ; vinculum broad, anellus sheathing the lower part of the aedoeagus ; valva flask-shaped with a falcate pointed apex ; aedoeagus long, slightly excised on the ventral face, near the distal end.

DISTRIBUTION. S. Africa, Natal, Delagoa Bay, etc., in the British Museum (N.H.), Zululand, Hluhluwe, in coll. Stempffer. False Bay, in coll. Jackson.

(8) *Baliochila barnesi* sp. nov.

(Pl. 3, fig. 4, holotype ♂ ; fig. 5, allotype ♀ ; Pl. 6, fig. 33, ♂ genitalia)

Types in the British Museum (N.H.).

♂. Frons grey or blackish-grey with two lateral fine white lines ; second joint of the palpi laterally compressed, clothed with fuscous scales, with a scattering of white on the underside, third joint white-tipped ; antennae fuscous, ringed white, club fuscous, orange-tipped ; legs fuscous, ringed white.

UPPERSIDE FORE WING. Orange-yellow with dark brown markings ; costal border extending about two-thirds from the base, with two clearly-marked dots of the ground-colour between costa and margin ; occasionally an additional one or two less clearly-marked dots may be present ; some fuscous scales in the cell ; one fuscous bar from the costal border covering the discocellulars ; another, larger curved bar from the costal border to vein 3 ; apex broadly fuscous and extending as a tapering marginal band to the tornus, the inner edge of this band rather irregular.

UPPERSIDE HIND WING. Coloration as in the fore wing ; the dark crescentic marginal border extending from the apex to the anal angle, about 2 mm. wide at its centre ; inner edge irregular.

Fringes fuscous, with white patches between veins 5-6-7 of the fore wing; irregular white patches from the apex to the anal angle of the hind wing.

UNDERSIDE FORE WING. Ground-colour less orange than on the upperside and shading to pale yellow towards the inner margin; all markings of the same tint as the hind wing ground-colour; costal border with four evenly spaced yellow dots between the costa and the margin; from the costal border run four bars, one crossing the cell near its base, a second crossing the cell about midway, a third covering the discocellulars, the fourth and largest curving from the margin to vein 3; apical pattern consisting of a triangular patch based on the costal margin curving outward and terminating at vein 4; outside this an antemarginal band, crenulate and tapering from the costa to vein 2; a marginal line tapering from the apex to vein 2.

UNDERSIDE HIND WING. Ground colour dark violet-grey with a boldly marked pattern consisting of numerous orange spots disposed in five irregular bands, in certain examples the third band accentuated by a heavy fuscous outline to the outer side of each spot; between the veins a submarginal series of triangular orange markings.

Fringes as on upperside.

♂ GENITALIA. Uncus formed of two arms, longer and more slender than in *aslauga*, the apices slightly expanded and curving ventrally, with numerous strong spines; at the base of each arm a small, laterally-directed apophysis; tegumen wide; special processes strongly curved as in *aslauga*, the apices broadened, bearing numerous strong spines; valvae typical of the genus, apices falcate, distal end of the aedoeagus bearing a sharp tooth on either side of the dorsal surface; ventral curve deeply excised.

Readily distinguished from the armature of *aslauga* by the longer arms of uncus and by the toothed aedoeagus.

♀. Frons, palpi, antennae and legs as in the male.

UPPERSIDE FORE WING. Orange yellow with fuscous markings, rather lighter than the male; costal border extending about two-thirds from the base, narrower than in the male, not encroaching upon the cell; small yellow marginal dots varying as in the male; no bar over the discocellulars; a small bar extending from the termination of the costal border to midway between veins 6 and 5; apex and marginal border as in the male, but the latter reduced in width between the extremities of veins 3 and 1.

UPPERSIDE HIND WING. Marginal border narrower than in the male, extending from the apex to the anal angle.

Fringes of both wings fuscous, interrupted with white.

UNDERSIDE FORE AND HIND WING. Coloration as in the male, but the two bars crossing the base and middle of the fore-wing cell do not quite reach its lower border.

Length of fore wing: ♂, 14 mm.

 " " ♀, 13 mm.

Holotype ♂: Mineni Valley, Manica, S.E. Trop. Afr., in the British Museum (N.H.), B.M. Type No. Rh. 15687.

Allotype ♀: Mineni Valley, Manica, S.E. Trop. Afr., in the British Museum (N.H.), B.M. Type No. Rh. 15688.

Paratypes: Mineni Valley, 4♂; Chirindi Mt., Mashonaland 2♂; Chirindi Forest, Gazaland 1♂; Umtali, Mashonaland 1♀; Mezimbiti, Port. E. Afr. 2♂, all in B.M. (N.H.). S. Rhodesia, Vumba Mtns., 1♂ 1♀ in Stempffer coll. S. Rhodesia, Vumba Mtns., 1♂ 1♀ in Jackson coll.

(9) *Baliochila neavei* sp. nov.

(Pl. 3, fig. 6, holotype ♂; fig. 7, allotype ♀; Pl. 6, fig. 34, ♂ genitalia; Pl. 9, fig. 65, ♂, Mozambique)

Types in the British Museum (N.H.).

♂. Frons grey with two lateral fine white lines; palpi, antennae and legs as in *B. barnesi*.

UPPERSIDE FORE WING. Orange yellow with dark brown markings as follows: costal border interrupted with two small yellow dots; some dark scales at base and middle of the cell near the upper edge; a streak covering the discocellulars; a curved patch from the costal border to vein 4; some dark scales between veins 4 and 3; a large apical patch prolonged to the tornus, its inner edge irregular.

UPPERSIDE HIND WING. Orange yellow with a wide dark brown border from the costa to the anal angle.

Fringes of both wings dark brown, interrupted with white.

UNDERSIDE FORE WING. Orange yellow shading to very pale yellow at the inner margin, with shining violet grey markings; four small yellow dots spaced along the costal margin; three transverse streaks crossing the cell, one at its base, one at the middle, the third covering the discocellulars; a larger, curved patch from the costa to vein 2; in the apical zone an oblique line running from the costa to vein 2; a crenulate line, parallel with the margin, from costa to tornus; a shining grey marginal line, wide at apex, narrowing to the tornus.

UNDERSIDE HIND WING. Ground-colour shining violet grey, with six transverse rows of orange-yellow spots, outlined with darker scales; the first row at the base of the wing, the second, in which the spots tend to fuse together, crossing the cell, the third, irregular, at the outer end of the cell, the fourth, also irregular, the fifth, parallel with the margin, the sixth consisting of a series of triangular submarginal spots.

Fringes as on the upperside.

♂ GENITALIA. Uncus consisting of two slender, curved arms, slightly expanded at the apices, which are thickly clad with strong spines; tegumen fairly wide; special processes short and resembling those of *aslauga*; vinculum wide; valvae of the usual shape with strongly falcate apices; aedoeagus long, the distal end bearing a pair of sharply-pointed triangular lobes on its dorsal surface and a deep excision on the ventral face. This species is readily separable from *B. barnesi* by the absence of the triangular apophyses at the base of the uncus arms.

♀. Frons as in the male; second joint of the palpi laterally compressed, clothed with white scales and a scattering of dark ones, third joint almost wholly white; antennae and legs as in the male.

UPPERSIDE FORE WING. Orange yellow with dark brown markings; costal border reduced, not invading the cell, with three yellow costal dots; a small streak from the costa covering the upper discocellular; another from the costa to a little below vein 6; apical patch and marginal border narrower than in the male, very reduced towards the tornus.

UPPERSIDE HIND WING. The dark marginal border greatly reduced in width, almost linear towards the anal angle, running inwards from the tips of the veins. Fringes as in the male.

UNDERSIDE FORE WING. Orange yellow shading to pale yellow at the inner margin, with violet grey markings; costal border interrupted by four small yellow dots; four transverse streaks extending inward from the costa, the first at the base, the second crossing the middle of the cell, the third over the discocellulars, and the fourth curving and reaching vein 3; in the apical zone an oblique streak, with two small costal yellow dots, extending to vein 4; a band of spots, confluent, from the apex to vein 6, then triangular and separated from vein 5 to vein 3; a shining grey marginal line, wide at the apex, tapering to the tornus.

UNDERSIDE HIND WING. As in the male, but the violet grey ground-colour a little lighter and the orange spots larger.

Fringes as on the upperside.

Length of fore wing: ♂, 15.8 mm.

 " " ♀, 15 mm.

Holotype ♂: Mlanje, Nyasaland, 16.iv.1913, (S. A. Neave), in the British Museum (N.H.), B.M. Type No. Rh. 15689.

Allotype ♀: Mlanje, Nyasaland, 21.iv.1913, (S. A. Neave), in the British Museum (N.H.), B.M. Type No. Rh. 15690.

Paratypes: A long series of both sexes from Mlanje; Brit. Cent. Afr.; Mandala, 2♂; Port. E. Afr., Ruvo Valley, 6♂, 1♀ all in B.M. (N.H.); E. Afr., Monapo, 8♂ 2♀ in Oxford University Museum. Mozambique, Tendo du Sunque, Gorongoza Dist., 1♂ in coll. Stempffer.

This species exhibits considerable variation in facies, for instance, the example from Mozambique, pl. 9, fig. 65, in which the genital armature is typical, is more slender in build, has the ground-colour much paler on the upperside, with the dark markings reduced and lighter in shade; the underside hind wing has the ground-colour of a very light violet-grey shade with the yellow spots reduced in number and of paler tint.

(10) *Baliochila hildegarda* Kirby (1887)

(Pl. 6, fig. 35, ♂ genitalia (lateral), fig. 36, ♂ genitalia (ventral); Pl. 9, figs. 55-60, ♂ and ♀ forms)

Teriomima (?) *hildegarda* Kirby, 1887, *Ann. Mag. Nat. Hist.* (5) 19: 367, Ashanti. Figured in Rhop. Ex. 1, Afr. Lyc. pl. 4, figs. 7 and 8.

syn. *Teriomima freya* Smith and Kirby, 1894, Rhop. Ex. 2: 115, Afr. Lyc. pl. 25, figs. 1 and 22.

Type in the British Museum (N.H.).

In the absence of abdomen and forelegs the sex of the holotype is debatable. In facies it resembles a number of males from the Mombasa region, with reduced

costal markings; on the other hand, it may well be a female from almost any locality within the range of distribution of the species. Fig. 55, Pl. 9, shows a ♂ underside resembling that of the type specimen. The locality "Ashanti" is an obvious error, as none of the species of this group have been recorded outside the Eastern half of S. Africa. The species is very variable, with a striking form from the coastal region, very heavily marked, the costal border almost flowing into the apical patch and the hind-wing margins very wide and dark, (Pl. 9, fig. 58.). Two females are also shown in Pl. 9, figs. 56 and 57, illustrating upper and underside of a lightly marked example with dark underside hind wing, figs. 59 and 60 a heavily marked upperside with light underside hind wing.

♂ GENITALIA. Uncus consisting of two short, broad arms, strongly toothed at the apices and covered with small spines. In what is assumed to be the typical form, from the Mombasa region, the two arms are splayed widely apart, but from other regions the uncus shows a number of modifications in this respect, the opposite extreme being reached in certain specimens from N.E. Rhodesia and British Central Africa, wherein the uncus lobes tend to converge slightly at the tips. No subunci; tegumen wide; special processes shorter than in *aslauga* crowned with strong spines; vinculum, anellus and valvae as in *aslauga*; aedoeagus, long, excised on the ventral face near tip. Distal half of valvae hairy.

DISTRIBUTION. Kenya, Tanganyika, Nyasaland, Rhodesia.

(11) *Baliochila dubiosa* sp. nov.

(Pl. 3, fig. 8, holotype ♂; fig. 9, allotype ♀; Pl. 7, fig. 37, holotype ♂ genitalia; figs. 38, 39, 40, uncus variations; fig. 41, ♂ genitalia; Pl. 9, figs. 61-64, ♂ forms)

Types in the British Museum (N.H.).

Assembled under this name are a number of forms, probably akin to *B. hildegarda*. In facies they exhibit a considerable amount of variation, but all share a peculiar formation of the uncus. This shape is not absolutely constant from specimen to specimen but, however great the variation, the affinity of the dissected examples is at once apparent. In view of this, the genitalic description is given first and that of the facies later.

♂ GENITALIA. Uncus bifid, clothed with strong spines; the two arms are deeply cleft at their apices and each bears, at its base a small, lateral triangular apophysis, as in *aslauga* and *hildegarda*; tegumen, special processes, vinculum, valvae and aedoeagus as in *hildegarda*. As previously stated, the uncus shape is rather variable, so a number of characteristic forms are figured. The small lateral apophyses are present in specimen no. 3052 from Kilifi, Kenya, fig. 38, but absent in specimen no. 3062, fig. 39 also from Kilifi, as well as in specimen no. 2637, fig. 40 from Meru. Sometimes the two arms are asymmetrical, the apical notch more or less deeply cleft, and so on, but these variations do not appear to indicate racial distinctions.

♂. Frons dark brown with two fine lateral white lines; second joint of the palpi laterally compressed, clothed with white and black scales, third joint white tipped; antennae black, ringed with white, club black; legs black ringed with white.

UPPERSIDE FORE WING. Yellow, with dark brown markings; costal border narrow, not extending into the cell, with three small costal yellow dots; some black scales at the base of the cell and in the centre; a small streak covering the disco-cellulars; a curved bar running from the costa to vein 2; a large apical patch continued down the border to the tornus, its inner edge forming an even curve.

UPPERSIDE HIND WING. Yellow, with a narrow dark brown marginal border, the inner edge tending to run inward along the veins.

UNDERSIDE FORE WING. Orange-yellow shading to pale yellow towards the inner margin, with markings of shining dark grey; costal border interrupted by four small costal white dots; three transverse bars, one at the base of the cell, one crossing the middle and extending beyond the origin of vein 2, the third covering the disco-cellulars; from the termination of the costal border, a broad curved bar, rather irregular in outline, reaching vein 2; a shining grey apical zone with two minute white costal spots, prolonged by a tapering marginal border to the tornus; between the veins the marginal border has a double row of small orange spots, decreasing in size towards the tornus.

UNDERSIDE HIND WING. Ground-colour violet grey with five transverse rows of orange-yellow spots, outlined with darker scales, the first row at the base of the wing, the second crossing the middle of the cell, the third, very irregular, at the end of the cell, the fourth and fifth parallel with the margin; between the veins a series of submarginal orange-yellow spots.

Fringes of both wings shining grey.

It seems impossible to find any two specimens exactly alike, even those examples shown by dissection to possess genitalia of identical pattern exhibit bewildering variations of wing marking. Sometimes the dark markings of the fore wing upper-side are reduced while the dark marginal border of the hind wing is developed, as in no. 3052 from Kilifi. The costal border of the fore wing sometimes invades the whole of the cell and so the yellow ground colour is reduced to less than half of the wing surface; the hind wing underside ground colour varies between shining dark violet grey, almost black, as in no. 2637 from Meru, to a very light grey, as in no. 3052 from Kilifi. Only by examination of the genital armature can this species be determined with certainty. The specimens referred to above, together with two other examples, are figured on pl. 9, figs. 61-64.

♀. Frons, palpi, antennae and legs as in the male.

UPPERSIDE FORE WING. Orange yellow, rather deeper than in the male, with dark brown markings; costal border very narrow, with two, occasionally three or four very small costal yellow spots; a transverse patch running from the apex of the costal margin to the origin of vein 7; apical patch and marginal border as in the male.

UPPERSIDE HIND WING. Orange yellow, with a linear dark brown margin, sometimes a little broader and tending to run inwards along the veins.

Fringes of both wings interrupted with orange.

UNDERSIDE FORE WING. Orange-yellow shading to pale yellow towards the inner margin; four transverse shining violet grey streaks running from the costa, the first at the base of the cell, the second crossing the middle, the third covering the

discocellulars, the fourth reaching vein 4; in the apical zone an oblique streak reaching vein 4, an anteterminal line from near the apex to vein 2, crenulate; marginal line wide at the apex, tapering to the tornus.

UNDERSIDE HIND WING. As in the male, ground-colour and markings varying to a similar degree.

Length of fore wing: ♂, 14 mm.

 " " ♀, 14.8 mm.

Holotype ♂: Brit. E. Afr., Uchweni Forest, nr. Witu, 25-27.ii.1912 (S. A. Neave). B.M. Type No. Rh. 15691.

Allotype ♀: Brit. E. Afr., Uchweni Forest, nr. Witu 25-27.ii.1912 (S. A. Neave). B.M. Type No. Rh. 15692.

Paratypes: Brit. E. Afr., Uchweni Forest nr. Witu, Feb.-Mar. 1912 (S. A. Neave). 12♂ 10♀. All in British Museum (N.H.).

(12) *Baliochila nyasae* sp. nov.

(Pl. 3, fig. 10, holotype ♂; Pl. 4, fig. 11, allotype ♀; Pl. 7, fig. 42, ♂ genitalia)

Types in the British Museum (N.H.).

♂. Frons blackish grey with two lateral fine white lines; second joint of the palpi laterally compressed, clothed with black and white scales; third joint white at the base and tip; antennae black, ringed white, club black, orange tipped; tarsi black, ringed white.

UPPERSIDE FORE WING. Orange yellow with dark brown markings; costal border running from the base to the extremity of vein 11, where it nearly joins the apical patch, leaving two small costal dots of the yellow ground-colour, one between vein 12 and the costa, the other between veins 11 and 12; some dark scales in the cell, one small streak covering the upper discocellulars, another streak extending from the border to vein 4; a broad apical patch, with a wide marginal border reaching the tornus, inner edge rather irregular.

UPPERSIDE HIND WING. Orange yellow with a dark brown marginal border about 3.5 mm. wide in the centre and running from the apex to the anal angle; inner edge rather irregular.

Fringes black, interrupted with white between the veins.

UNDERSIDE FORE WING. Ground-colour orange yellow, paler towards the inner margin, with markings of lustrous dark violet grey; costal border has five small dots of the ground-colour, four evenly spaced along the border between the base and the extremity of vein 12, the fifth between veins 11 and 12; from the costal border runs a streak at the base of the cell, another at its middle and a third covers the discocellulars; a larger, curved marking runs from the costa to vein 3; in the apical area an oblique line runs from the costa to vein 3; another, crenulate, lies parallel with the marginal border from the apex to vein 2; a marginal line, of fairly even width, extends from the apex to the tornus.

UNDERSIDE HIND WING. Ground-colour lustrous violet grey, with numerous isolated orange-yellow spots arrange in five irregular bands, also a submarginal series of interneural orange spots.

Fringes as on upperside.

♂ GENITALIA. Uncus formed of a pair of slender arms fused together almost to their extremities, leaving a notch at the distal end; the suture between the arms is clearly discerned under the microscope; tegumen wide; special processes short with long fine spines at their ends; valvae of the usual shape, with slightly falcate apices; aedeagus rather short, thick, weakly excised below the tip on the ventral face.

♀. Frons, palpi, antennae and legs as in the male.

UPPERSIDE FORE WING. Orange yellow, rather paler than in the male, with dark brown markings; costal border narrower than in the male, leaving two or three small yellow dots along the costa; a small dark spot running from the costal border and ending between veins 6 and 5; broad apical patch merging into a wide outer margin which tapers to the tornus, its inner edge irregular.

UPPERSIDE HIND WING. Coloration as in the fore wing, with a narrower marginal border than in the male, about 1.5 to 2 mm., with a very irregular inner edge.

Fringes as in the male.

UNDERSIDE FORE WING AND HIND WING. As in the male, but with the lustrous dark violet grey of the fore wings slightly reduced and the ground-colour of the hind wings rather lighter and duller greyish violet.

Fringes as on the upperside.

Length of fore wing: ♂, 13 mm.

 " " ♀, 15 mm.

Holotype ♂: Mlanje, Nyasaland, 6.i.13 (S. A. Neave). In British Museum (N.H.), B.M. Type No. Rh. 15693.

Allotype ♀: Mlanje, Nyasaland, 6.i.13 (S. A. Neave). In British Museum (N.H.), B.M. Type No. Rh. 15694.

Paratypes: Mlanje, Nyasaland, Nov.-April, 11♂ 10♀, Ruo Valley, Nyasaland, 1♀, all in the British Museum (N.H.).

(13) *Baliochila stygia* Talbot (1935)

(Pl. 4, fig. 12, neallotype ♀; Pl. 7, fig. 43, ♂ genitalia)

Teriomima minima f. *stygia* Talbot, 1935, *Ent. Mon. Mag.* (3) 21: 72, pl. 1, fig. 4, ♂, Kenya. Rabai, 700', 14 m. N.W. of Mombasa (K. St. A. Rogers).

♂. Holotype in the Hope Department of Entomology, University Museum, Oxford.

♀. Not previously described.

UPPERSIDE FORE WING. Orange yellow with dark brown markings; wide costal border covering most of the cell, leaving three small costal yellow dots; a large round spot flowing from the costal border and covering the discocellulars; an extensive apical patch prolonged by a wide apical border, tapering to the tornus, the inner edge of the apical patch and of the marginal border forming an even curve; some black scales scattered over the orange-yellow area.

UPPERSIDE HIND WING. Colouring as in the fore wing, but with the marginal border a little less wide, with an irregular and ill-defined inner edge.

Fringes of both wings black with some yellow hairs.

UNDERSIDE FORE WING. Ground-colour yellow, becoming paler towards the inner margin, with dark grey markings as follows; costal border leaving four small costal white dots; a spot at the base of the cell, one in its middle; a streak covering the discocellulars; an oblique stripe curving from the costa to vein 3; a large apical patch leaving two small costal white dots, divided by two series of confluent, indistinct orange yellow spots parallel with the outer margin; marginal line wide at the apex, tapering to the tornus.

UNDERSIDE HIND WING. Ground-colour shining violet grey with the usual six transverse bars of orange-yellow spots, outlined with darker scales, the fourth row from the base being more strongly accentuated than the rest; marginal line shining grey.

Fringes as on the upperside.

The general appearance of the female underside is lighter than that of the male; the hind wing appears almost unmarked unless closely inspected, owing to the dull tinge of the markings.

Length of fore wing: ♀, 11.2 mm.

♂ GENITALIA. Uncus consisting of two pairs of short and slender points; no subunci; tegumen very wide; special processes stout, rather short, clothed with bristles; vinculum broad; anellus sheathing the base of the aedoeagus; valvae oblong, with falcate pointed apices; aedoeagus small, deeply excised ventrally near the distal end.

Holotype ♂: Mombasa, 14 m. N.W. of Rabai, 700', 21.xii.09 (St. A. Rogers).
Oxford Univ. Mus.

Neallotype ♀: Zanzibar, 23.ix.24, ex D. M. Cator coll., in British Museum (N.H.), B.M. Type No. Rh. 15695; in addition there are three more females bearing the same data in the British Museum (N.H.).

(14) *Baliochila woodi* Riley (1943)

(Pl 7, fig. 44, ♂ genitalia)

Teriomima woodi Riley, 1943, *Entomologist*, 76: 225, Nyasaland, Mt. Mlanje, 12.ii.38, 2500', (R. C. Wood).

Types in the British Museum (N.H.).

♂ GENITALIA. Uncus in the form of a flattened lobe, narrow at the base, expanding towards the apex, where it is slightly excised and inclined ventrally; no subunci; tegumen of moderate size; special processes very long and slender, clothed with short bristles; vinculum wide; valvae of the usual shape with slightly falcate, slender and acute apices; aedoeagus long, tapering evenly to a truncate tip. Some hairs on the uncus, valvae hairy.

DISTRIBUTION. Nyasaland, Mlanje.

(15) *Baliochila fragilis* sp. nov.

(Pl. 4, fig. 13, holotype ♂; fig. 14, allotype ♀; Pl. 7, fig. 45, ♂ genitalia)

Types in the British Museum (N.H.).

♂. Frons blackish brown with two lateral fine white lines; second joint of the palpi laterally compressed, clothed with white scales with a scattering of black ones; third joint white tipped; antennae black, ringed with white, club black, orange tipped; tarsi black, ringed with white.

UPPERSIDE FORE WING. Orange yellow with dark brown markings, ground-colour paler in some examples; some dark scales at the base of the wing; a small dark streak over the discocellulars, absent in some specimens; a dark oblique marking extending from the costa, leaving a small yellow dot between the costa and vein 11, to vein 4, sometimes 5; apical patch with an irregular inner edge, prolonged by a broad marginal border ending at the extremity of vein 3, but continued in the form of small interneural patches to the tornus.

UPPERSIDE HIND WING. Ground-colour orange yellow, sometimes pale yellow, with a dark marginal border, linear in most examples, occasionally as much as one-and-a-half millimetres in width, with an irregular inner edge.

Fringes of both wings dark brown, interrupted with white on the hind wings.

UNDERSIDE FORE WING. Orange yellow, paler towards the inner margin, with dark brown markings as follows: costal border with four, sometimes three, small yellow dots; three small bars crossing the cell at its base, centre and over the discocellulars respectively; an oblique, curved streak running from the costa to vein 3, sometimes 4; apical patch prolonged by a marginal border tapering to the tornus; two indistinct rows of interneural orange spots running parallel with the outer margin, the inner row very small, in some examples obsolete.

UNDERSIDE HIND WING. Ground-colour greyish brown, sometimes lighter, sometimes darker, with six rows of small, indistinct orange-yellow spots, the fourth row from the base being the most prominent, the fifth and sixth parallel with the margin. In some specimens the spots can only be seen with the aid of a microscope.

Fringes brown, interrupted with white.

♂ GENITALIA. Uncus in the form of a flattened oval disc, deeply excised at the apex, supported on a longish stalk or neck, and bearing a number of short, sturdy spines; tegumen triangular; special processes very long and slender, almost straight, clothed with long, fine spines over their whole length; vinculum wide; valvae of the usual shape, distal ends narrow, strongly falcate; aedoeagus short and thick, distal end truncate. In facies the males are somewhat variable, but their genitalia are absolutely constant.

♀. Frons, palpi, antennae and tarsi as in the male.

UPPERSIDE FORE WING. Yellow with dark brown markings; costal border narrow, with two small costal yellow dots; an oblique spot from the costa to vein 5; dark apical spot and marginal border as in the male.

UPPERSIDE HIND WING. Yellow, with a linear dark marginal border from the costa to the anal angle.

Fringes blackish brown interrupted with white near the apex of the fore wings and the hind wings.

UNDERSIDE FORE WING. Yellow, paler towards the inner margin, with dark brown markings as follows: three small yellow dots spaced along the costa, some dark scales in the cell near its base, at its centre and over the disocellulars; a dark oblique spot from the costa to vein 4; apical patch with an irregular inner edge, with the marginal border ending between veins 2 and 3; two rows of orange yellow spots running parallel with the outer margin, rather more clearly marked than in the male.

UNDERSIDE HIND WING. Ground colour slightly darker than in the male, the transverse rows of orange spots paler in colour and appearing more distinct than in the male.

Fringes as on the upperside.

Length of fore wing: ♂, 12 mm.

 " " ♀, 13.6 mm.

Holotype ♂: Kenya, Meru, 6000', May, 1946 (T. H. E. Jackson), in the British Museum (N.H.), B.M. Type No. Rh. 15696.

Allotype ♀: Kenya, Meru, 6000', May, 1946 (T. H. E. Jackson), in the British Museum (N.H.), B.M. Type No. Rh. 15697.

Paratypes: Kenya, Nairobi, 7♂ 2♀; Kibwezi, 3000', 9♂ 1♀; Chuka, 5600', 10♂ 2♀; Makindu, 3300', 1♂; Masongaleni, 3000', 2♂; Gheni, Ukamba, 1♂; Meru, 5600'–6000', 3♂ 1♀; Samburu, 1♂; Muani, 1♀; Hills of Teita, 1♀; Mto-ya-mawe, 1♀; Kedai, 1♂; Somaliland, 1♂ 1♀, all in British Museum (N.H.); Nairobi, 1♂, in Univ. Mus. Oxford. Meru, 1♂ 2♀ in coll. Jackson. Kibwezi, 5♂; Bura Hill, 1♂, in coll. van Someren. Meru, 2♂ 1♀; Kima (Kenya), 1♂, in coll. Stempffer.

(16) *Baliochila minima minima* Hawker Smith (1933)

(Pl. 4, fig. 15, neallotype ♀; Pl. 7, fig. 46, ♂ genitalia)

Teriomima minima Hawker Smith, 1933, *Stylops*, 2: 6, Kenya, Uchweni Forest, Witu, Feb. 1912 (S. A. Neave).

Holotype ♂ in the British Museum (N.H.).

♀ not previously described.

UPPERSIDE FORE WING. Yellow, tinged with orange, markings blackish brown; some dark scales at the base of the costa and of the cell; a small costal spot at the extremity of vein 12, another extending obliquely from the costa to vein 5; apical patch prolonged by the marginal border, which tapers to the tornus, the inner edge irregular.

UPPERSIDE HIND WING. Marginal border linear, with an ill-defined and irregular inner edge.

Fringes dark brown, interrupted with yellow.

UNDERSIDE FORE WING. Yellow, with silvery-grey markings; costal border with three small dots; a spot at the base of the cell, one in the middle and a streak

over the discocellulars; a curved streak from the costa to vein 3; a streak parallel with the outer margin from near the apex to vein 2; a marginal line wide at the apex and tapering to the tornus.

UNDERSIDE HIND WING. Yellow, with five transverse silvery-grey stripes, the first near the base, the second crossing the cell, the third irregular, the fourth and fifth parallel with the marginal border; marginal line silvery grey.

Fringes of fore wing dark brown interrupted with yellow, of hind wing yellow towards the apex, mixed with brown towards the anal angle.

Length of fore wing: ♀, 10.1 mm.

Neallotype ♀: Kenya, Uchwani Forest, nr. Witu, 25-27.xi.1912 (S. A. Neave), in British Museum (N.H.). B.M. Type No. Rh. 15698.

♂ GENITALIA. Uncus forked from an oval base, the two prongs slender and sinuate; no subunci; tegumen rather small; special processes long and slender, clothed with stiff bristles; vinculum wide; anellus sheathing the base of the aedoeagus; valvae oblong, with falcate apices; aedoeagus short and thick, with a cleft tip.

DISTRIBUTION. Kenya, Uchwani Forest, near Witu.

(17) *Baliochila minima latimarginata* Hawker Smith (1933)

(Pl. 4, fig. 16, neallotype ♀; Pl. 7, fig. 47, ♂ genitalia (ventral); Pl. 8, fig. 48, ♂ genitalia (lateral))

Teriomima minima latimarginata Hawker Smith, 1933, *Stylops*, 2: 7, Kenya, Rabai, Mombasa, 1♂, 1906 (K. St. A. Rogers).

Holotype ♂ in the British Museum (N.H.). ♀ not previously described.

♂ GENITALIA. Closely resembles *m. minima* save in the relative length of the special processes and the lobes of the uncus. Whereas in *m. minima* all four tips appear of equal length, in *latimarginata* the tips of the special processes project well beyond those of the uncus.

♀. The description given of the female of *m. minima* would answer equally well for the form now considered, but there are some examples in which the marginal borders of the upperside hind wings are nearly as broad as in the male.

Length of fore wing: ♀, 9.5 mm.

Neallotype ♀: B.E.A., Rabai, nr. Mombasa, 15.iii.1912 (S. A. Neave) in the British Museum (N.H.).

DISTRIBUTION. Rabai, Mombasa; Moa, Tanganyika Terr.; B.E.A., nr. Wangi; Jilore, 19 miles W. of Malindi; Shimba Hills; Kwale; Kilifi.

(18) *Baliochila minima amanica* ssp. nov.

(Pl. 4, fig. 17, holotype ♂; fig. 18, allotype ♀; Pl. 8, fig. 49, uncus and special processes)

Types in the British Museum (N.H.).

♂. UPPERSIDE FORE WING. Orange yellow with blackish-brown markings; costal border not invading the cell, bearing four small costal yellow dots; some dark

scales in the base of the cell, in the middle and over the discocellulars; running from the costal border the large apical patch is prolonged by a marginal border tapering to the tornus, the inner edge of apical patch and marginal border irregular.

UPPERSIDE HIND WING. Orange yellow with the marginal border reduced to a series of isolated spots at the extremities of veins 4 to 1b.

Fringes of fore wings black interrupted with orange yellow, of hind wings orange yellow with black at the extremities of the veins.

UNDERSIDE FORE WING. Orange yellow shading to pale yellow towards the inner margin, with lustrous black markings as follows: six transverse stripes running from the costa, the first crossing the base of the cell, the second its middle, the third covering the discocellulars, the fourth reaching vein 4, the fifth, oblique, also reaching vein 4, the sixth, linear, from near the apex to vein 3; a black marginal line near the tips of the wings and near the tornus.

UNDERSIDE HIND WING. Orange yellow with five transverse stripes of lustrous blackish tint, the first from vein 8 to 1a, crossing the base of the cell; the second from the costal to the abdominal border, crossing the middle of the cell; the third very irregular, also crossing the whole wing and covering the discocellulars; the fourth and fifth parallel with the outer margin; black marginal spots at the end of the veins. The general appearance of the underside gives an impression of vivid contrast between ground-colour and markings.

Fringes as on the upperside.

♂ GENITALIA. Differ from those of *minima minima* only in the relative length of the special processes, which are short and thick, projecting considerably less than the tips of the uncus.

From 100 miles N.W. of Mombasa, Sagalla Mtn., 3500', a series of males and females have been collected of a race identical in genitalic structure but differing in facies. In the males the marginal border of the upperside hind wing is more developed, irregular but continuous from the end of vein 6 to the anal angle; the underside markings are of much lighter tint, shining grey. The general aspect is much less contrasted. In the female the ground colour is lighter than in the male, the costal border reduced to small costal black dots, apical patch as in the male, no marginal border to the hind wings; fringes as in the male. The underside resembles that of the male; fringes of fore wings dark brown interrupted with orange yellow, of hind wings ochre yellow.

Length of fore wing: ♂, 12 mm.

 " " ♀, 12 mm.

Holotype ♂: Tanganyika Terr., Amani, May-Sept., 1945 (native collector), T. H. E. Jackson. In British Museum (N.H.) B.M. Type No. Rh. 15700.

Allotype ♀: Brit. E. Afr., Sagalla, 3500', c. 100 miles N.W. of Mombasa (St. A. Rogers). In British Museum (N.H.), B.M. Type No. Rh. 15701.

Paratypes: Hills of Teita, Kilimanjaro, 2♂; Amani, 4♂; Sagalla, 1♂, all in B.M. (N.H.); Sagalla, 11♂ 4♀; Amani, 3♂; Arabuka Forest, 1♂, all in coll. Oxford Univ. Mus. Sagalla, 1♂; Amani, 1♀; Kasigau, 1♀ in coll. van Someren. Amani, 2♂ 2♀; Turiani, Tanganyika Terr., 1♀ in coll. Jackson.

(19) *Baliochila lipara* sp. nov.

(Pl. 4, fig. 19, holotype ♂; fig. 20, allotype ♀; Pl. 8, fig. 50, ♂ genitalia)

Types in the British Museum (N.H.).

♂. Frons blackish grey with two fine lateral white lines; second joint of the palpi laterally compressed, clothed with brown and white scales, third joint white at the base and the tip; antennae black, ringed with white, club black, orange tipped; tarsi brown, ringed with white.

UPPERSIDE FORE WING. Orange yellow, of a deeper tint than in the associated species, with dark brown markings; costal border narrow, not invading the cell, two small orange costal dots; a small rectangular spot from the costa to vein 7, almost running into the apical patch; the apex broadly dark brown, marginal border tapering to a line at the tornus, its inner edge irregular.

UPPERSIDE HIND WING. Deep orange yellow, the marginal border indistinct, almost linear, from the costa to the anal angle. In an example from Umtali (coll. Stempffer) the marginal border is of a reddish tinge.

Fringes of both wings dark brown, interrupted with white.

UNDERSIDE FORE WING. Orange yellow, paler towards the inner margin, with shining dark violet-grey markings; costal border with four small yellow dots; running from the costal border are four patches, one over the base of the cell, one over the middle, one covering the discocellulars, the fourth larger, curved, reaching vein 4; apical patch broad, with two yellowish-white costal spots; marginal border tapering to the tornus, its inner edge rather irregular; a series of three oblique orange streaks; a submarginal series of interneural orange spots.

UNDERSIDE HIND WING. Ground-colour is the same as the markings of the fore wing underside, with six transverse rows of small orange spots, the first row at the base of the wing, the second crossing the cell, the third broken and indistinct, the fourth and fifth parallel with the outer margin, the sixth submarginal; the fourth row has the outer edges of its spots outlined with darker scales, and forms an angled line crossing the wing from the costa to the abdominal margin. In some specimens the orange markings are greatly reduced and the general impression is then of a uniformly marbled grey.

Fringes as on the upperside.

♂ GENITALIA. Uncus formed of two small lobes with blunt apices; tegumen wide; special processes highly developed as in *minima*, densely covered with long, fine spines; vinculum wide; valvae oblong, with falcate apices; aedeagus long, its distal end deeply notched, the dorsal lobe cut obliquely, the ventral lobe curved and slightly expanded at the tip.

The genitalia plainly indicate the affinity of this species with *minima*, despite the discrepancy in size.

♀. Frons, palpi, antennae and tarsi as in the male.

UPPERSIDE FORE WING. Orange yellow, paler than in the male, with similar dark brown markings.

UPPERSIDE HIND WING. As in the male. The Umtali example in the Stempffer coll. has the marginal border even more reddish than in the male from that locality.

Fringes of fore wing light brown, of hind wings light brown at the base, degraded white in the distal half.

♂ GENITALIA. Uncus consisting of two curved lobes mounted upon a stalk or neck, the latter exceeding the former in length; tegumen triangular; no special processes; vinculum wide; valvae of the usual shape, with strongly falcate apices; aedoeagus long, subcylindrical, with a pointed, ventrally directed distal end; anellus lobes highly developed, long, slender and excurved at the apices, which are heavily spinous. It is considered that the formation of this armature indicates that *singularis* is a link between the preceding species and those of the genus following. The special processes are lacking, but the anellus lobes are highly developed. The uncus, however, exhibits no fusion with the eighth tergite.

♀. Frons, palpi, antennae and tarsi as in the male.

UPPERSIDE FORE WING. Ground-colour pale yellow, some light brown scales at the base of the costa; an oblique streak running from the costa to vein 4, light brown from the costa to vein 10, darker from vein 10 to vein 4; apical patch as in the male.

UPPERSIDE HIND WING. Pale yellow, no markings.

Fringes of both wings pale brown, interrupted with white.

UNDERSIDE FORE WING. As in the male.

UNDERSIDE HIND WING. Ground-colour lighter than in the male, markings similar. Fringes as on the upperside.

Length of fore wing: ♂, 14 mm.

 " " ♀, 15.8 mm.

Holotype ♂: S. Africa, Durban, 15.ix.23, *ex coll.* W. Feather, in British Museum (N.H.), B.M. Type No. Rh. 15704.

Allotype ♀: S. Africa, Durban, 15.ix.23, *ex coll.* W. Feather, in British Museum (N.H.), B.M. Type No. Rh. 15705.

Paratypes: S. Rhodesia, Umtali, 3.viii.27 (*ex coll.* Feather) 1♂; Matabeleland, Filabusi, 2.ix.23, 1♂, all in British Museum (N.H.); Durban, 1♂ in coll. T. H. E. Jackson.

Genus *CNODONTES* gen. nov.

Type of the genus: *Durbania pallida* Trimen, 1898.

Eyes, palpi, antennae, legs, wingshape and *neurulation* as in *Teriomima* and *Baliochila*.

♂ GENITALIA. Exhibit a peculiarity of structure unknown to the authors in any other genus of African or Holarctic Lycaenidae. The uncus is fused to the eighth tergite, which forms a sort of guard or sheath. This feature suggested the name of the genus. There are no subunci; tegumen triangular with two long, digitate processes springing from its base, these processes in no way connected with the anellus; vinculum wide; valvae as in the preceding genus; aedoeagus long; a pair of long, slender arms arising from the dorsal surface of the anellus and resting parallel with the two processes from the base of the tegumen; uncus and valvae pilose. It seems that, in this genus, the "special processes" of *Baliochila* have divided into two independent parts, one remaining attached to the tegumen, the other to the anellus.

(21) *Cnodontes pallida* Trimen (1898)

(Pl. 5, fig. 23, neallotype ♀; pl. 8, fig. 52, ♂ genitalia)

Durbania pallida Trimen, 1898, *Trans. Ent. Soc.*, 1898: 12, pl. 1, fig. 7, ♂, fig. 8, ♀. Mashonaland, Gadzima, Umfuli R. (G. A. K. Marshall).

Types in the British Museum (N.H.).

The specimen described by Trimen as the female of this species is, in fact, another male, the genitalia identical with those of the holotype. This error well illustrates the danger of determination on superficial characters in this group. Very few examples of this species are available, not a single female from Mashonaland among them. Having a male and a female from N. Bechuanaland, Ghanzi, Mongalatsila, both taken by the same collector on the same day (18.iii.1925, J. Maurice), and bearing a strong superficial resemblance to one another, it is considered reasonable to describe this female as the neallotype, the male having proved a true *pallida* on dissection.

UPPERSIDE FORE WING. Ground-colour rich orange yellow, markings dark brown; costal band not invading the cell, except for a few dark scales on the discocellulars; three small costal yellow dots; a patch of darker brown running from the costa to vein 4; apical patch continued as a tapering marginal border to the tornus, inner edge broken.

UPPERSIDE HIND WING. Ground-colour as on fore wing; an indistinct, linear marginal border from the apex to the anal angle.

Fringes of fore wing brownish, interrupted with white near the apex; of hind wings white interrupted with brown from the apex to vein 4, then brown to the anal angle.

UNDERSIDE FORE WING. Deep orange yellow at the costal margin, paler towards the inner margin; costal and apical bands pale brown, the costal with four small yellowish dots and a broken line of white scales on the anterior margin; in the cell are three evenly spaced dark brown patches; a strongly defined dark patch from the costa to vein 4; running through the apical patch and parallel with the outer margin are two rows of weakly defined orange spots, diminishing in size from the apex towards the tornus and merging into the ground-colour between veins 4 and 3.

UNDERSIDE HIND WING. Ground-colour pale fuscous, with six irregular transverse rows of orange-yellow spots, the fourth from the base being most conspicuous as it is outlined with an irregular zone of darker scales.

Length of fore wing: 17 mm.

Neallotype ♀: N. Bechuanaland, Ghanzi, Mongalatsila, 18.iii.25 (J. Maurice), in the British Museum (N.H.), B.M. Type No. Rh. 15706.

♂ GENITALIA. Uncus a simple lobe with a rounded apex, fused to the eighth tergite as stated in the general description; no subunci; processes of the tegumen long and slender, with hooked apices; vinculum wide; valvae of the usual shape, apices weakly falcate; aedoeagus long, subcylindrical, distal end pointed; anellus lobes very long and slender, slightly spatulate at the apices. Uncus, tegumenal processes and valvae hairy.

DISTRIBUTION. Rhodesia, E. bank of the Loangwa River, N. of Zumbo; N. Bechuanaland; Port. E. Africa.

(22) *Cnodontes vansomereni* sp. nov.

(Pl. 5, fig. 24, holotype ♂; fig. 25, allotype ♀; Pl. 8, fig. 53, ♂ genitalia (ventral); fig. 54, ♂ genitalia (lateral); Pl. 9, fig. 66, ♂, Katanga)

Types in the British Museum (N.H.).

♂. Frons blackish grey with two lateral fine white lines; second joint of the palpi laterally compressed, clothed with white scales and a sprinkling of brown ones; third joint white at the base and the tip; antennae black, ringed with white, club black; tarsi dark brown, ringed with white.

UPPERSIDE FORE WING. Pure yellow, not orange tinged, with dark brown markings; some dark scales between the costa and vein 12, a dark oblique streak from the costa to vein 4, leaving a small yellow dot between the costa and vein 11, almost running into the apical patch; apical patch triangular, with a small yellow dot between veins 7 and 8, inner edge of patch irregular; marginal border greatly reduced in width from the end of vein 4 to the tornus, where it is linear.

UPPERSIDE HIND WING. Pure yellow, no dark markings.

Fringes very dark brown, interrupted with white near the apex of the fore wings and round the hind wings.

UNDERSIDE FORE WING. Yellow, paler towards the inner margin; brown costal border extending to vein 11, with two small yellow spots, one between vein 12 and the costa, the other between veins 11 and 12; some brown scales in the cell near the upper border, some over the discocellulars; an oblique streak extending from the costa almost to vein 4, brown from the costa to vein 6, darker brown from 6 to its lower edge, the outer edge of this streak almost confluent with the apical patch; apex and marginal border light reddish brown, the border tapering to a line at the tornus, the inner edge of the apical patch and the border forming an even curve; a series of very indistinct orange spots between the veins and parallel with the margin.

UNDERSIDE HIND WING. Ground-colour light reddish brown, varying to a light yellowish grey, with nearly obsolete rows of yellow spots, the row most visible being outlined with darker scales and reaching from the end of vein 8 on the costa to the abdominal border, forming almost a right angle at the level of vein 5.

Fringes blackish brown.

A number of examples, notably a male from Katanga, pl. 9, fig. 66, look very different from the typical form, being much paler both on upperside and underside, but the genitalia establish their identity beyond doubt.

♂ GENITALIA. Uncus small, triangular, with a rounded apex; fused to it is the eighth tergite, which forms behind it a hood or guard; the uncus is attached to a tegumen of moderate size by a semi-transparent unsclerotised membrane; from the base of the tegumen arise two digitate lobes with rounded apices, covered with long, fine hairs. These lobes are not connected to the anellus. Vinculum wide; valvae of the usual shape with serrated apices terminating in fine curved points;

aedoeagus long, distal end pointed and ventrally inclined; anellus lobes long and slender, apices slightly spatulate and curving towards the special processes.

♀. Frons, palpi, antennae and tarsi as in the male.

UPPERSIDE FORE WING. Lighter than in the male, similarly marked.

UPPERSIDE HIND WING. Without markings.

UNDERSIDE FORE WING. Yellow, paler towards the inner margin, markings as in the male.

UNDERSIDE HIND WING. Light reddish brown in the allotype, but varying as in the male, with an almost invisible pattern of orange-yellow spots.

Fringes brown with a few whitish interruptions.

Length of fore wing: ♂, 15 mm.

 " " ♀, 15.8 mm.

Holotype ♂: Migori Valley, 4200', S. Kavirondo, Kenya (T. H. E. Jackson), in British Museum (N.H.), B.M. Type No. Rh. 15707.

Allotype ♀: Migori Valley, 4200', S. Kavirondo, Kenya (T. H. E. Jackson), in British Museum, (N.H.), B.M. Type No. Rh. 15708.

Paratypes: Migori Valley, 4200', 2♂ 2♀; Nyasaland, Shire Valley, 3♂ 1♀; Tanganyika Terr., District of the Great Craters, 2♂; N. Rhodesia, Luangwa Valley, 3000'-1800', 4♂ 1♀; N. Rhodesia, Chambezi Valley, 4500', 2♂ (T. A. Barnes), 1♂ (S. A. Neave); Belgian Congo, Kasenga, 3♂ 2♀; Katanga, 1♂ 1♀; Lualaba River, 1♂; Angola, Kalweba River, 1♂; all in British Museum (N.H.). E. Afr., Kongwa, c. 3000', 3♂; St. Michael's Mission, 1♂; Itigi, c. 150 m. E. of Tabora, 1♂; N.E. Rhodesia, Loangwa Valley, 24♂ 9♀; Chambezi Valley, Chinsali Dist. and Kasama Dist., 7♂ 2♀; all in Oxford Univ. Mus. Hope Fountain, 2♀ in coll. Jackson. Kenya, Suna, 1♂; Belgian Congo, Katanga, Lupweshi River, 1♂ 1♀; in coll. Stempffer. S. Kavirondo, Suna, 5♂ 3♀; in coll. van Someren.

4. CONCLUSIONS

While the *Teriomima* sensu stricto have typical Liptenine genitalic armatures, the two new genera, with their special developments, may well belong to a different group. Whether they have a common origin, or constitute an outstanding example of convergence of external characters, is debatable. The existence of *B. singularis* rather suggests that the former is the correct assumption, as this species has the uncus formation of *Baliochila*, the anellus lobes of *Cnodontes*, but no "special processes." The wealth of new forms from Mlanje, Nyasaland, revealed by the intensive collecting of Dr. S. A. Neave in 1912, 1913 and 1914, suggests that similar intensive methods, employed in other localities favourable to this group, might well be rewarded by the discovery of many more.



PRESENTED